

**BARTEC**



ATEX / IECEx

Zone 1 and Zone 21



## User Manual

**POLARIS**  
**POLARIS REMOTE**

**POLARIS Remote KVM Digital 15" to 24"** Type 17-71V2-....



**User Manual - TRANSLATION****POLARIS REMOTE**  
**POLARIS Remote KVM Digital**  
**Type 17-71V2-....****ATEX / IECEx**  
**Zone 1 and Zone 21**

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## Appendix: Declaration of Conformity

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# 1 Basic Safety Instructions

## 1.1 Notes on this manual

**Please read carefully before commissioning the devices.**



The user manual is a constituent part of the product. It must be kept in the direct vicinity of the device and accessible at all times to installation, operating and maintenance personnel.

It contains important notes, safety instructions and test certificates which are necessary for perfect functioning when the devices are being operated and handled.

The user manual is written for all people who carry out assembly, installation, commissioning and maintenance work on the product, whereby the directives and standards applicable to areas with a gas or dust atmosphere (99/92/EC, EN/IEC 60079-17 and EN/IEC 60079-19) must be observed when doing such work.

Familiarity with and strict adherence to the safety instructions and warnings in this manual are essential for safe installation and commissioning. Careful handling and consistent observation of these instructions can prevent accidents, personal injuries and damage to property.

The illustrations in these operating instructions serve to make the information and descriptions more clear. They are not necessarily true to scale and may deviate slightly from the actual construction of the device.

Safety instructions and warnings are specially highlighted in this manual and marked by symbols.

### **DANGER**

**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### **WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### **CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### **ATTENTION**

**ATTENTION** identifies a potentially damaging situation which, if not avoided, could damage the equipment or something in its environment.



Important instructions and information on effective, economical and environmentally compatible handling.

### 1.1.1 Languages

The original user manual is written in German. All other available languages are translations of the original user manual.

The user manual is available in German and English. If you require any other languages, please ask BARTEC or request them when placing the order.

### 1.1.2 Changes to the document

BARTEC reserves the right to alter the contents of this document without notice. No guarantee is given for the correctness of the information. In case of doubt, the German safety instructions shall apply because it is not possible to rule out errors in translation or in printing. In the event of a legal dispute, the "General Terms and Conditions" of the BARTEC group shall apply in addition.

The respective up-to-date versions of data sheets, manuals, certificates, EC Declaration of Conformity may be downloaded at [www.bartec-group.com](http://www.bartec-group.com) under:

"Products" >>> "Automation & Enterprise Mobility" >>> "Human Machine Interface"  
or ordered directly from BARTEC GmbH.

## 1.2 Handling the Product

The product described in these operating instructions has been tested and left the factory in perfect condition as regards meeting safety requirements. To maintain this condition and ensure that this product operates perfectly and safely, it may be used only in the manner described by the manufacturer. Appropriate transportation, suitable storage and careful operation are also essential for the perfect and safe operation of this product. The POLARIS must be installed properly and securely if it is to work perfectly and correctly.

The safe and perfect mounting of the POLARIS is a precondition for faultless and correct operation.

## 1.3 Use in Accordance with the Intended Purpose

### 1.3.1 Exclusive Purpose

It is used exclusively in combination with operating devices which satisfy the requirements for Overvoltage Category I.

The POLARIS REMOTE series have been designed specially for use in hazardous (potentially explosive) areas in Zone 1 or Zones 21.

It is essential to observe the permissible operational data for the device being used.

### 1.3.2 Improper Use

Any other use is not in accordance with the intended purpose and can cause damage and accidents. The manufacturer will not be liable for any use beyond that of its exclusive intended purpose.

## 1.4 Owner's/Managing Operator's Obligations

The owner/managing operator undertakes to restrict permission to work with the POLARIS to people who:

- ▶ are familiar with the basic regulations on safety and accident prevention and have been instructed in the use of the POLARIS;
- ▶ have read and understood the documentation, the chapter on safety and the warnings.

The owner/managing operator must check that the safety regulations and accident prevention rules valid for the respective application are being observed.

## 1.5 Safety Instructions

### 1.5.1 General Safety Instructions

- ▶ Take the device out of the hazardous area before wiping it with a dry cloth or cleaning it!
- ▶ Do not open devices in a hazardous area.
- ▶ The general statutory regulations or directives relating to safety at work, accident prevention and environmental protection legislation must be observed, e.g. the German industrial health and safety ordinance (BetrSichV) or the applicable national ordinances.
- ▶ In view of the risk of dangerous electrostatic charging, wear appropriate clothing and footwear.
- ▶ Avoid the influence of heat that is higher or lower than the specified temperature range.
- ▶ Protect the device from external influences! Do not expose the device to any caustic/aggressive liquids, vapours or mist! In the event of malfunctioning or damage to the enclosure, take the device out of the potentially explosive area immediately and bring it to a safe place.

## 1.6 Safety Instructions for Operation

### 1.6.1 Upkeep

For electrical systems the relevant installation and operating regulations must be complied with (e.g. Directive 99/92/EC, Directive 94/9/EC and the national applicable ordinances IEC 60079-14 and the DIN VDE 0100 series)!

The disposal of this equipment must comply with the national regulations on the disposal of waste.

### 1.6.2 Maintenance

Regular servicing is not necessary if the equipment is operated correctly in accordance with the installation instructions and environmental conditions. In this context, please refer to Chapter "Maintenance, Inspection, Repair".

## 1.7 Inspection

Under EN/IEC 60079-17 and EN/IEC 60079-19, the owner/managing operator of electrical installations in hazardous areas is obliged to have these installations checked by a qualified electrician to ensure that they are in a proper condition.

### 1.7.1 Repairs

Repairs on explosion-protected operating equipment may be done only by authorised persons working in accordance with the latest developments in technology and using original spare parts. The applicable regulations must be observed.

### 1.7.2 Commissioning

Before commissioning, check that all components and documents are there.

## 1.8 Ex Protection Type, Certification and Standards

Markings specifying Ex protection and certification are put on the device. For Ex protection markings, see Chapter 3 "Technical Data".

The POLARIS REMIOTE series conform to Directive 94/9/EC for devices and protective systems for use to their intended purpose in potentially explosive areas (ATEX Directive). For the standards conformed to, see Chapter 3 "Technical Data".

## 1.9 Warranty

### WARNING

**It is not permissible to make any modifications or implement any conversions unless the manufacturer gives his approval in writing.**

If components other than those specified are used, protection against explosion can no longer be assured. It cannot be guaranteed that parts procured from other suppliers have been designed and produced in conformance to safety requirements and with the necessary stress tolerance.

- Contact the manufacturer to obtain approval before making any modifications or conversions. Use only original spare parts and original expendable parts.



The manufacturer grants a complete guarantee only and exclusively for the spare parts ordered from him, the manufacturer.

As a fundamental rule, our "General Conditions of Sale and Delivery" apply. These are made available to the owner/managing operator at the latest on formation of a contract. Guarantee and liability claims for personal injury and damage to property are excluded if they are due to one or more of the following reasons:

- ▶ use of the POLARIS for a purpose other than that for which it is intended.
- ▶ incorrect installation, commissioning, operation and maintenance.
- ▶ non-compliance with the instructions in the manual with respect to transport, storage, assembly, commissioning, operation and maintenance.
- ▶ structural modifications without our prior authorisation.
- ▶ inadequate monitoring of components that are subject to wear
- ▶ repairs done incorrectly.
- ▶ disasters due to the effects of foreign matter or Act of God (events outside human control).

We guarantee the POLARIS and its accessories for a period of 1 year starting on the date of delivery from the Bad Mergentheim factory. This guarantee covers all parts of the delivery and is restricted to the replacement free of charge or the repair of the defective parts in our Bad Mergentheim factory. As far as possible, the delivery packaging should be kept for this purpose. In the event of such a claim, the product must be returned to us after written arrangement. The customer cannot claim to have the repairs done at the site of installation.

## 2 Product Description

### 2.1 Definition

The POLARIS Remote KVM Digital System consists of a remote unit and a local unit. The remote unit is installed internally and the local unit is contained in the scope of delivery. The data are transferred in real time.



It is connected to the server or PC easily and directly by means of the local unit already included in the scope of supply.

The POLARIS Remote KVM Digital has been optimized for signals such as HDMI/DVI and USB. A local monitor can be connected via "Monitor Out". The local keyboard and mouse are connected to the PC directly.

The POLARIS Remote input devices are connected by only one USB cable. If the POLARIS Remote KVM Digital is equipped with a touch screen, the driver (which is included in the scope of supply) is installed on the local PC.

An STP cable with a transmission distance of up to 130 metres is used for transfer. The **Local Unit** is powered by an external power pack which is included in the scope of supply.



The front-panel mounting design makes installation easy. On request, the devices are also available as a ready-made system solution in a stainless steel enclosure for wall, floor or table mounting.

Intrinsically safe keyboards in various national languages, and mouse, trackball, joystick and touchpad as front-panel installation are available. A resistive (intrinsically safe) touch screen and the connection of a BARTEC hand-held scanner are optional possibilities. The intrinsically safe input devices are supplied through barriers which are also integrated in the POLARIS Remote.

For particularly harsh areas of use with temperatures as low as down to -40 °C, we equip the POLARIS series with electrical heating. On request, we produce customised solutions with more command and signalling devices.

## 2.2 System Design



There is firmware on both the unit remote and local unit which must have the same firmware status for smooth transmission.

### 2.2.1 Standard – Point to Point



Local operation and the remote station are peers in the system

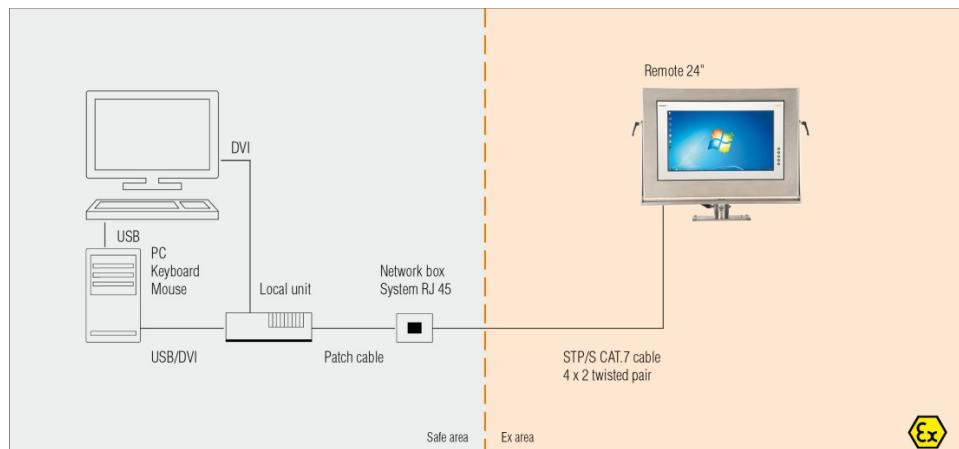


Illustration 1: System design with STP cable up to 130 m

### 2.2.2 Standard - Point-to-Point with Hand-Held Scanner



The local operation and the remote station are peers in the system. The hand-held scanner is connected as a USB input device by means of an USB interface.

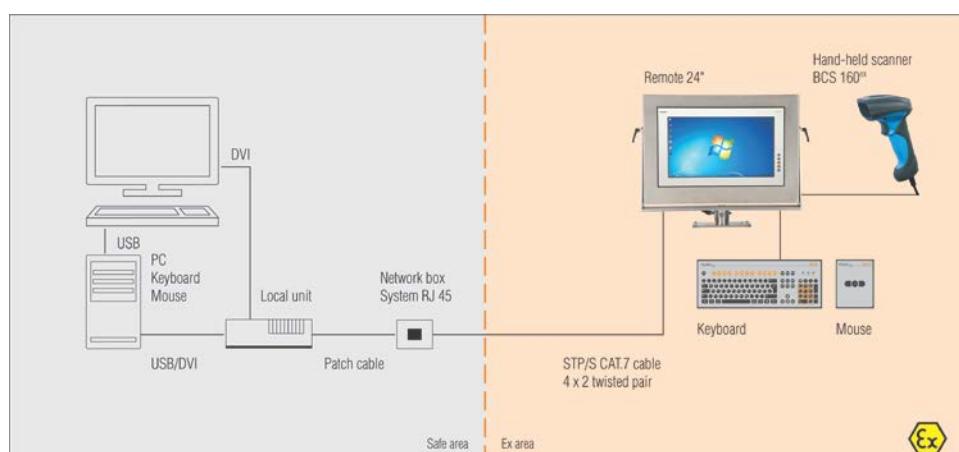


Illustration 2: System design with STP cable up to 130m and hand-held scanner

### 2.2.3 Special Application - Cascade Connection



When several POLARIS Remote devices are cascaded, the POLARIS Remote devices are peers in the system. The use of the touch function must be checked in each individual case.

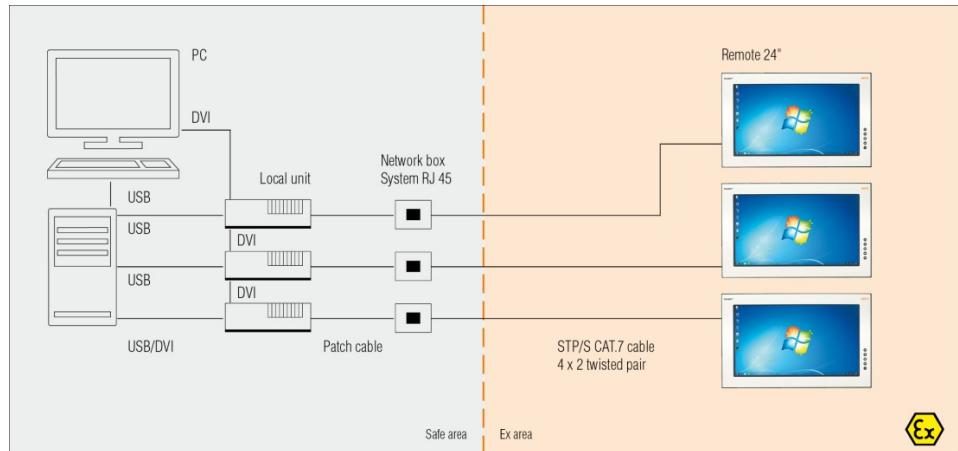


Illustration 3: System design with STP cable up to 130 m and cascading of several POLARIS Remote devices

## 3 Technical Data

### 3.1 POLARIS Remote KVM Digital

#### 3.1.1 Explosion Protection

Type	17-71V2-....	
Ex protection type ATEX	II 2G Ex eb qb [ib op pr] IIC T4 resp. II 2G Ex db eb qb [ib op pr] IIC T4 II 2D Ex tb IIIC T120° -20 °C ≤ Ta ≤ 60 °C	
Certification	IBExU 05 ATEX 1117 X	
Standards	EN 60079-0:2012 EN 60079-1:2007 EN 60079-5:2007 EN 60079-7:2007 EN 60079-11:2012 EN 60079-28:2007 EN 60079-31:2009	
Ex protection type IECEx	Ex db eb qb [ib op pr] IIC T4 Ex tb IIIC T120 °C	
Certification	IECEx IBE 11.0007X	
Standards	IEC 60079-0:2011 IEC 60079-1:2007-04 IEC 60079-5:2015 IEC 60079-7:2006-07 IEC 60079-11:2011 IEC 60079-28:2006-08 IEC 60079-31:2013	Edition: 6 Edition: 6 Edition: 4 Edition: 4 Edition: 6 Edition: 1 Edition: 2
Special conditions	<p>The intrinsically safe circuits and the enclosure are galvanically connected. The equipotential bonding must be guaranteed at the installation of the intrinsically safe circuits.</p> <p>High charging mechanisms at the operation surface of the Visual units respectively accessories (for example pneumatic particle transport) must be excluded at the application. The degree of protection (IP code) must be ensured by the installation of the units in enclosures (IP code).</p>	
Directives	94/9/EG 2004/108/EG	
Product marking	0044	
Further test certificates	<a href="http://www.bartec-group.com">www.bartec-group.com</a>	

## 3.1.2 General data

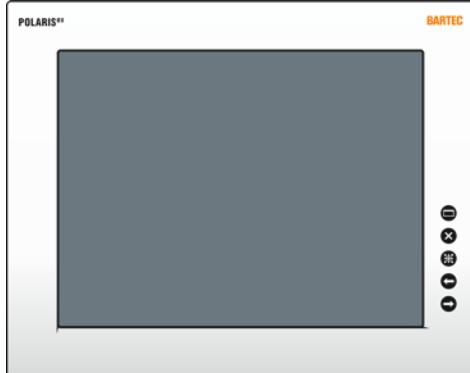
<b>Construction</b>	Front panel fitting; Optional turn-key system solutions in a stainless steel enclosure as wall, floor or table mounting versions.
<b>Connection to the PC</b>	<ul style="list-style-type: none"> <li>- with local unit (plug &amp; play)</li> <li>- through STP/S copper cable</li> <li>- connections           <ul style="list-style-type: none"> <li>1 x HDMI/DVI in</li> <li>1 x HDMI/DVI out (local monitor)</li> </ul> </li> <li>- 1 x USB for keyboard/mouse/touch screen/hand-held scanner</li> </ul>
<b>Conductor length</b>	<ul style="list-style-type: none"> <li>- up to 130 m with STP/S copper cable 4x2x23AWG (CAT 7)</li> </ul>
<b>POLARIS Remote Connection</b>	<ul style="list-style-type: none"> <li>1 x Ex e for STP/S (CAT 7)</li> <li>1 x Ex e power supply</li> <li>2 x Ex i for PS/2 for intrinsically safe keyboard and mouse</li> </ul>
<b>Optional interface modules</b>	1 x Ex i Supply module for hand-held scanner
<b>Display</b>	<ul style="list-style-type: none"> <li>Antireflection coating glass pane</li> <li>Optional touch screen</li> </ul>
<b>Power supply</b>	<ul style="list-style-type: none"> <li>AC 90 V to 253 V <math>\pm</math> 10 %, 50 Hz to 60 Hz</li> <li>DC 24 V <math>\pm</math> 10 %</li> </ul>
<b>Max. power consumption</b>	$P_{\max} < 100 \text{ W}$ depending on the version
<b>Relative air humidity</b>	5 to 95 % non-condensing
<b>Vibration</b>	0.7 G/1 mm; 5 Hz-500 Hz pulse in all 3 axes
<b>Shock</b>	15 G, 11 ms pulse in all 3 axes
<b>Material</b>	
Front	Polyester foil on anodized aluminium plate (conditionally UV-resistant)
Rear	sheet steel bichromated
<b>Protection class</b>	
Front	IP65
Rear	IP54
<b>Optional approved accessories</b>	<ul style="list-style-type: none"> <li>Keyboard</li> <li>Mouse variants</li> <li>Hand-held scanner</li> </ul>

### 3.1.3 Characteristics POLARIS Remote 15"



<b>Display</b>	<ul style="list-style-type: none"> <li>- 15" graphics-capable TFT display</li> <li>- XGA resolution, 1024 x 768 pixels</li> <li>- 262,144 colours</li> <li>- Brightness 350 cd/m<sup>2</sup></li> <li>- Visible surface approx. 304 x 228 mm</li> <li>- Contrast 400:1</li> </ul>
<b>Backlighting</b>	CFL technology, Service life approx. 50,000 hours (at +25 °C)
<b>Permissible ambient temperature</b>	
Storage/Transport	-20 °C to +50 °C
Operation	0 °C to +50 °C
<b>Dimensions</b> (width x height x depth)	411 mm x 332 mm x approx. 135 mm
<b>Wall cut-out</b> (width x height)	394.5 mm x 315.5 mm + 0.5 mm
<b>Weight</b>	approx. 23 kg
Below +10 °C the unit has to be heated in order to guarantee the lifetime of the backlight illumination.	

## 3.1.4 Characteristics POLARIS Remote 15" Sunlight



<b>Display</b>	<ul style="list-style-type: none"><li>- 15" graphics-capable TFT display</li><li>- XGA resolution, 1024 x 768 pixels</li><li>- 16.2 million colours</li><li>- Brightness 1000 cd/m<sup>2</sup></li><li>- Visible surface approx. 304 x 228 mm</li><li>- Contrast 700:1</li></ul>
<b>Backlighting</b>	LED technology, Service life approx. 50,000 hours (at +25 °C)
<b>Permissible ambient temperature</b> Storage/Transport Operation	-20 °C to +60 °C -20 °C to +60 °C
<b>Dimensions</b> (width x height x depth)	411 mm x 332 mm x approx. 135 mm
<b>Wall cut-out</b> (width x height)	394.5 mm x 315.5 mm + 0.5 mm
<b>Weight</b>	approx. 23 kg

## 3.1.5 Characteristics POLARIS Remote 19.1"



<b>Display</b>	<ul style="list-style-type: none"> <li>- 19.1" graphics-capable TFT display</li> <li>- SXGA resolution, 1280 x 1024 pixels</li> <li>- 16.2 million colours</li> <li>- Brightness 300 cd/m<sup>2</sup></li> <li>- Visible surface approx. 380 x 305 mm</li> <li>- Contrast 1300:1</li> </ul>
<b>Backlighting</b>	CFL technology, Service life approx. 40,000 hours (at +25 °C)
<b>Permissible ambient temperature</b>	
Storage/Transport	-20 °C to +50 °C
Operation	0 °C to +50 °C
<b>Dimensions</b> (width x height x depth)	498 mm x 400.5 mm x approx. 135 mm
<b>Wall cut-out</b> (width x height)	484 mm x 386.5 mm + 0.5 mm
<b>Weight</b>	approx. 33 kg
Below +10 °C the unit has to be heated in order to guarantee the lifetime of the backlight illumination.	

## 3.1.6 Characteristics POLARIS Remote 24"



<b>Display</b>	- 24" graphics-capable TFT display - WSXGA resolution, 1920 x 1080 pixels - 16.7 million colours - Brightness 300 cd/m <sup>2</sup> - Visible surface approx. 521 x 299 mm - Contrast 3000:1
<b>Backlighting</b>	LED technology, Service life approx. 40,000 hours (at +25 °C)
<b>Permissible ambient temperature</b> Storage/Transport Operation	-20 °C to +50 °C 0 °C to +50 °C
<b>Dimensions</b> (width x height x depth)	644 mm x 406 mm x approx. 135 mm
<b>Wall cut-out</b> (width x height)	630 mm x 392 mm + 0.5 mm
<b>Weight</b>	approx. 38 kg

## 3.2 Keyboard

### 3.2.1 Explosion Protection

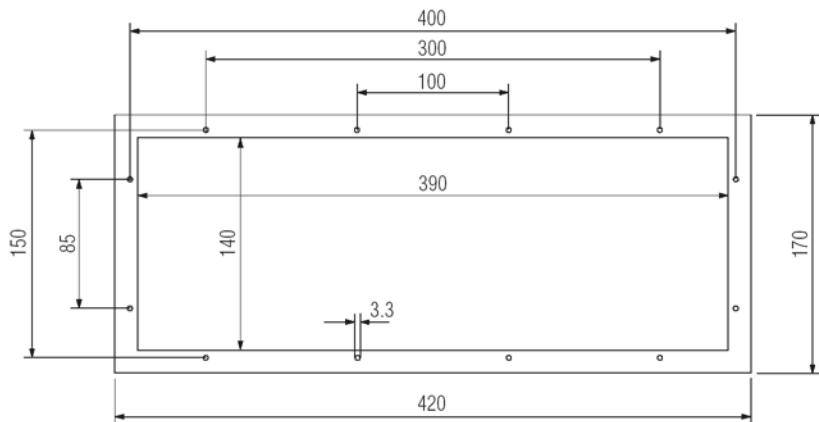
Type	17-71VZ-40..		
Ex protection type ATEX		II 2G Ex ib IIC T4	
		II 2D Ex ib IIIC T120 °C	
-20 °C ≤ Ta ≤ +60 °C			
Certification	IBExU 05 ATEX 1117 X		
Standards	EN 60079-0:2012 EN 60079-11:2012 EN 60079-31:2009		
Ex protection type IECEx	Ex ib IIC T4 Ex ib IIIC T120 °C		
Certification	IECEx IBE 11.0007X		
Standards	IEC 60079-0:2011 IEC 60079-11:2011 IEC 60079-31:2013	Edition: 6 Edition: 6 Edition: 2	

### 3.2.2 General Data



Construction	Front panel fitting
Material	Polyester foil on aluminium sheet (conditionally UV-resistant)
Protection class (front)	IP65
Dimensions (width x height)	420 mm x 170 mm
Wall cut-out (width x height)	391 mm x 140 mm
Installation depth	18 mm
Weight	approx. 700 g
Other features	Keyboard available in various languages

Dimensions and wall cut-out for keyboard (mm)



### 3.2.3 Characteristics of enclosure for mouse and keyboard



Order no.	05-0041-0277
Material	Stainless steel 1.4301; AISI 304
Dimensions (width x height x depth)	600 mm x 85 mm x 220 mm
Protection class	IP65
Dimensions (mm)	

### 3.3 Finger mouse, Trackball, Touchpad and Joystick

#### 3.3.1 Explosion protection

Ex protection type ATEX	II 2G Ex ib IIC T4 II 2D Ex ib IIIC T120°C -20 °C ≤ Ta ≤ 60 °C
Certification	IEBExU 05 ATEX 1117 X
Standards	EN 60079-0:2012 EN 60079-11:2012 EN 60079-31:2009
Ex protection type IECEx	Ex ib IIC T4 Ex ib IIIC T120 °C
Certification	IECEx IBE 11.0007X
Standards	IEC 60079-0:2011 Edition: 6 IEC 60079-11:2011 Edition: 6 IEC 60079-31:2013 Edition: 2

#### 3.3.2 General Data

Construction	Front panel fitting	
Material	Polyester foil on aluminium sheet (conditionally UV-resistant)	
Protection class		
Fingermouse/Joystick/Touchpad	IP65	front site
Trackball	Static	IP65 front site
	Dynamic	IP56 front site
Dimensions (width x height)	130 mm x 170 mm	
Wall cut-out (width x height)	100 mm x 140 mm	
Dimensions and wall cut-out (mm)		
<p>All hole diameter: 3.3 mm</p>		



Finger mouse

Type	17-71VZ-1000
Installation depth	15 mm
Weight	approx. 270 g



Touchpad

Type	17-71VZ-2000
Installation depth	15 mm
Weight	approx. 250 g



Trackball

Type	17-71VZ-3000
Installation depth	43 mm
Weight	approx. 500 g



Joystick without button

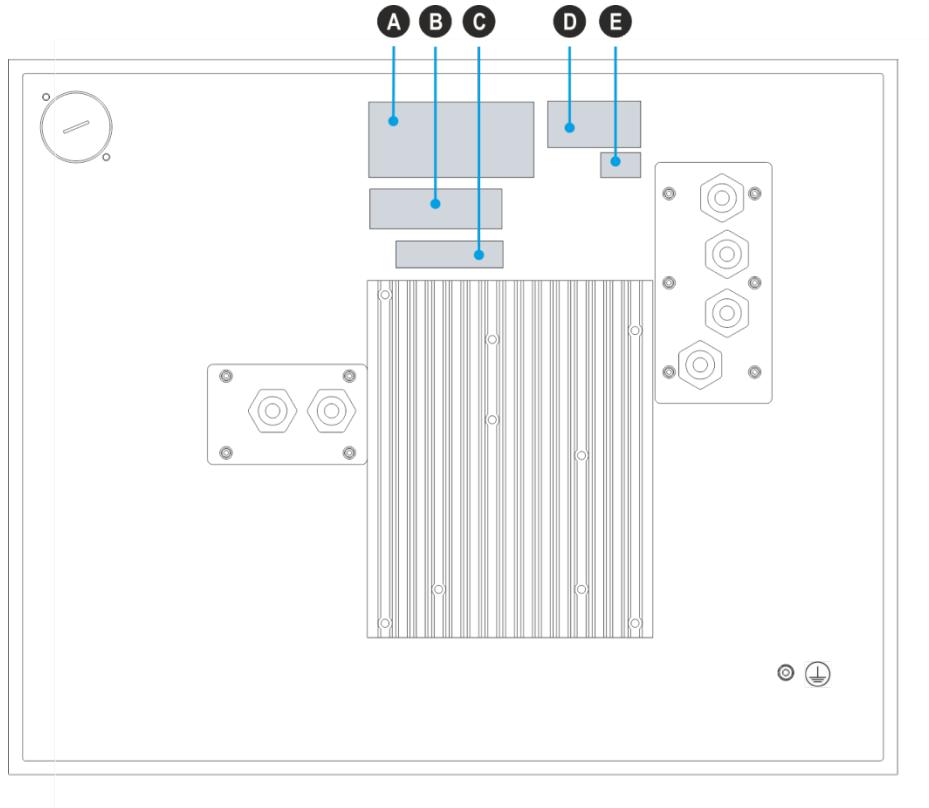
Type	17-71VZ-8000
Installation depth	43 mm
Weight	approx. 500 g



Joystick with button

Type	17-71VZ-9000
Installation depth	43 mm
Weight	approx. 500 g

### 3.4 Product Labelling



<b>A</b> Type label	<p><b>CE 0044</b> POLARIS [REDACTED] Typ 17-71V [REDACTED] IBEx05 ATEX 1117 X II 2 G / IIC T4 Ex tb qb [b] IIC T4 Ex tb III T120°C IP6X IECEx IBE 11.0007X KC KTL 14-KB4BO-0258X EAC TC RU C-DE/ГБ06.B.0034</p> <p><b>BARTEC</b> 97980 Bad Mergentheim / Germany</p> <p>S/N: [REDACTED] Version: [REDACTED]</p> <p>electrische Daten siehe Baumanprüfungsecheinung electrical data see EC-type examination certificate</p> <p>0°C ≤ Ta ≤ +50°C DC 24 V</p>
<b>B</b> Warnings on the device	<p>Dieses Gehäuse ist werkseitig verschlossen. Nicht öffnen! Cette enveloppe est scellée en usine. Ne pas l'ouvrir! This enclosure is factory sealed. Do not open!</p>
<b>C</b> Label for Local Unit	<p>Serial Number KVM: Firmware Vers.:</p>
<b>D</b> Type label with label INMETRO	<p><b>Segurança</b> <b>INMETRO</b> BR GCF-0229 11/UL-BRHZ-0131X</p> <p><b>BARTEC</b> 97980 Bad Mergentheim / Germany</p> <p>ATENÇÃO - NÃO SEPARA QUANDO ENERGIZADO ATENÇÃO - ESTE INVÓLCRO VEM SELADO DA FÁBRICA. NÃO ABRA.</p>
<b>E</b> Test sticker	<p><b>EX geprüft</b> <b>A 0712</b></p>

## 4 Transport, Storage, Scope and Assembly

### 4.1 Transport



A written report of any transport damage or missing items must be given to the appointed forwarder and to BARTEC GmbH immediately on receipt of the delivery.

Damage caused by incorrect storage and transport shall not fall within the warranty provisions of BARTEC GmbH.

#### CAUTION

This device is heavy (23-38 kg).

There is a risk of injury if it is lifted or moved incorrectly.

- You will need help from others when transporting it.

### 4.2 Intermediate Storage

#### ATTENTION

Damage to property through incorrect storage!

- Comply with the correct storage temperatures.
- Keep the POLARIS free of moisture.

### 4.3 Scope

- 1 x POLARIS Remote KVM Digital
- 1 x local unit with power pack
- 1x DVI HDMI cable
- 1 x USB cable
- 1 x RJ45 network box
- 1 x RJ45 patch cable, 3 m
- 1 x Reinforcement frame
- 1 x Set of mounting clamps
- 1 x User manual POLARIS Remote KVM digital
- 1 x Operation instructions KVM

#### 4.3.1 Accessories

**Optional:** Keyboard, finger mouse, touchpad, trackball, joystick  
Enclosure and supporting system for wall, floor and table mounting

**Not enclosed:** Assembly material  
Cable for voltage supply and data line

## 4.4 Assembly

Before assembling the device, make sure you have all the components and documents.

Required Tools:	POLARIS (mounting clamps)	1 x hex key 3 mm 1 x slotted screwdriver
	POLARIS termination compartments	1 x hex key 2.5 mm 1 x slotted screwdriver
	POLARIS PE connection	1 x ring spanner 7 mm
	POLARIS accessories	1 x socket wrench 5.5 mm
	System solution in an "Exclusive" enclosure	1 x hex key 5 mm (to fix the supporting system in place)
	LSA-Plus terminal	Insertion tool for LSA-Plus

### 4.4.1 Installation options

The POLARIS can be installed directly in:

- Enclosures
- Switch cabinet doors
- Operating consoles

POLARIS Remote are mounted by fitting them into front panels, which can be done with very little effort. On request, we supply the operating devices as ready-to-use system solutions in stainless steel enclosures for mounting onto walls, floors or table.

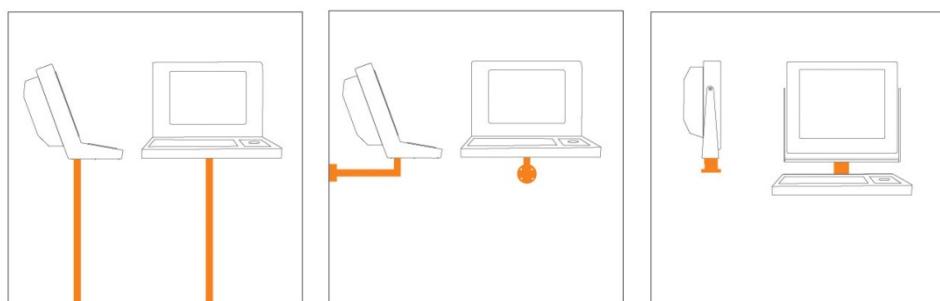


Illustration 4: Examples of floor, wall and table mounting in an "Exclusive" enclosure

## 5 Installation



We recommend setting up and testing the entire system before its ultimate installation in the Ex area. If a long connection cable is not available, please use a patch cable to test the basic functions.

### **⚠ DANGER**

Electrostatic charging through a stream of particles.

**There is a risk of fatal injury in an explosive atmosphere!**

- ▶ Make sure there are no highly energetic charging mechanisms at the user interface on the display unit or its accessories.
- ▶ Do not install the device in the stream of particles.

### **⚠ DANGER**

**No PE connection. Risk of fatal injury in an explosive atmosphere!**

- ▶ The POLARIS must be integrated in the equipotential bonding.



The POLARIS Series is approved for an ambient temperature of from 0 °C to +50 °C or from -20 °C to +60 °C and a relative air humidity of from 5 to 95 % without condensation.

### 5.1 Requirements

- The place where the POLARIS is installed must have sufficient mechanical stability/fastening.
- The enclosure intended for accommodating the POLARIS must be designed to bear the device's weight.
- If a supporting system is used, the surface underneath and the means of fastening the supporting system must be designed to bear the weight of the POLARIS.
- Choose the optimum height for operating the POLARIS Remote.
- Ensure good lighting conditions for a perfectly legible display (no direct exposure to the sun's rays).
- Do not mount in direct proximity to switching or current changing devices.
- Only install the POLARIS in conjunction with the reinforcement frame in an IP65 enclosure. Failure to comply with this can lead to water penetrating and damaging the device.

**POLARIS with CFL backlighting:**

- The POLARIS must be heated when at temperatures below 0 °C. We furthermore recommend protecting the display from the cold, e.g. with a door on the front of the enclosure.
- The POLARIS should be heated when at temperatures below +10 °C to avoid the service life of the backlighting being curtailed.

**Outdoor installation****ATTENTION****Damage from condensation or overheating!**

- Avoid direct sunlight!  
Remedy: e.g. shelter with sufficient air circulation.
- Remove condensation on the POLARIS immediately.
- A POLARIS built into an enclosure must be heated and not removed from the mains.
- Equip the protective housing with breather.

## 5.2 Mechanical Installation

**⚠ CAUTION**

This device is heavy (23-38 kg).

There is a risk of injury if it is lifted or moved incorrectly.

- ▶ You will need help from others when transporting it.



Only qualified personnel, i.e. trained skilled specialists will have the necessary specialised know-how to be able to perform all the mechanical work. Familiarity with and the technically perfect implementation of the safety instructions described in this manual are preconditions for safe installation and commissioning.

**⚠ DANGER**

Sealed locking screw! The device is closed in the factory.

The explosion protection is lost if opened, and danger to life exists in an explosive atmosphere!

- ▶ Do not open the locking screw!

**⚠ DANGER**

Death or danger of injury due to lack of PE conductor connection.

- ▶ Equipotential bonding with at least 4 mm<sup>2</sup> is necessary for metallic enclosures in potentially explosive atmospheres.
- ▶ PE conductor connections must be secured against accidental loosening.

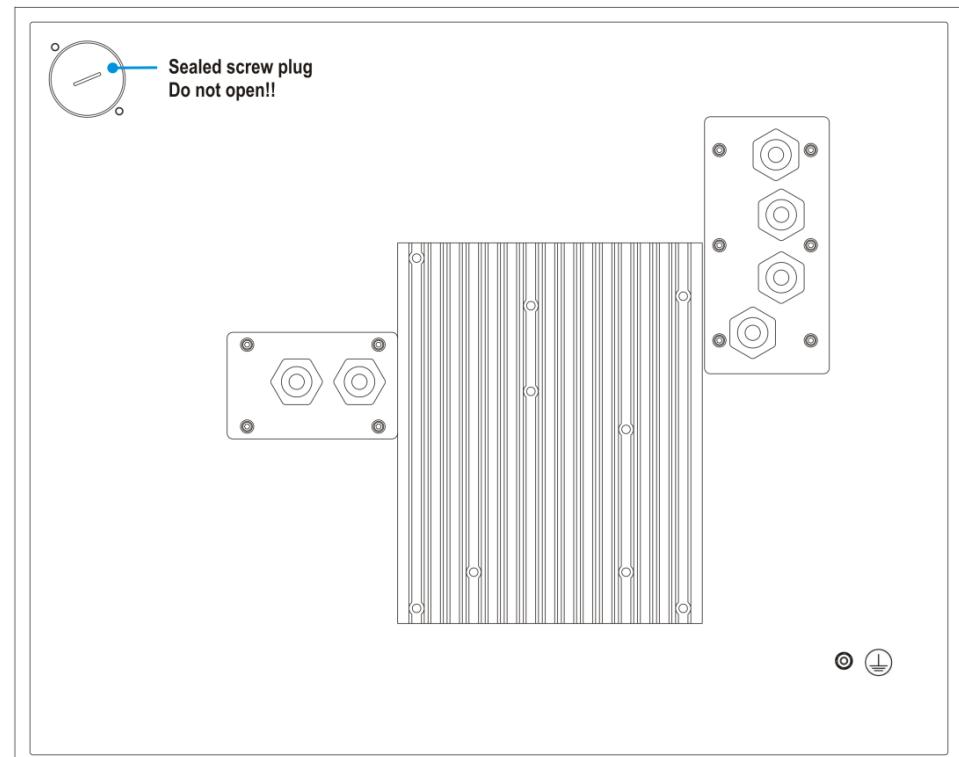


Illustration 5: Rear panel POLARIS

### 5.2.1 Installation in 2G/3D enclosure

In order to guarantee the IP degree of enclosure protection = IP54 for installation in 2G enclosures of Ex e type of protection (e.g. control equipment), and = IP6X for installation in 2D enclosures in areas where combustible dusts exist - with "protection through the enclosure" type of protection - the reinforcement frame should be used for fastening on the front side.

A reinforcement frame is inserted between the retaining brackets and the enclosure material for good transmission of the clamping force. This ensures even transmission of force.

#### **DANGER**

If there is no reinforcement frame, it will not be possible to maintain the IP protection. There is a risk of fatal injury in an explosive atmosphere!

- ▶ Only use enclosure with at least 2 mm wall thickness.
- ▶ Insert the reinforcement frame between the holder and the enclosure.

#### Reinforcement frame for maintenance of Protection Class IP65

POLARIS 15"	05-0205-0009
POLARIS 19.1"	05-0205-0010
POLARIS 24"	05-0205-0012

#### Work steps:

- Insert the POLARIS into the cut-out in the enclosure.
- From the back, place the reinforcement frame over the POLARIS.
- Use screws to fasten all mounting clamps onto the POLARIS and tighten the clamping screws evenly.

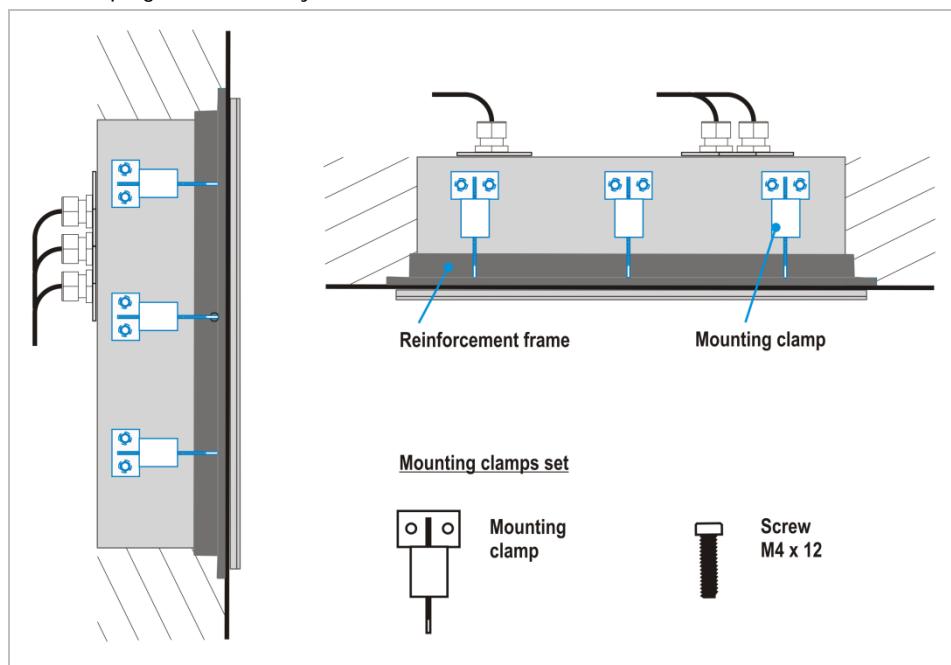


Illustration 6: Minimum installation depth and set of mounting clamps

### 5.2.2 Installation as a System Solution in the Stainless Steel Enclosure

The POLARIS is available as a ready-made system solution in a stainless steel enclosure e.g. the "Exclusive" stainless steel enclosure, for floor, wall or table mounting.

#### Work steps:

- Prepare supply and data line(s).
- Prepare installation on the basis of the drilling template (see illustration 7 - 9).
- Install supply and data line(s) in the base.
- Fasten the supporting system.
- Pull supply and data line(s) through the cable glands provided into the enclosure. Ensure there is sufficient length.
- Mount the enclosure on the supporting system.
- Open the enclosure and insert the data line(s) through the cable glands and connect up. Close unused cable glands with blanking plugs.

#### For POLARIS built into the enclosure door:



The open door must be supported and secured during the installation and servicing phase. Otherwise the wall thickness specified may lead to the door sagging slightly when open.

- Close the enclosure door.

#### Floor mounting (Stainless steel enclosure "Exclusive")

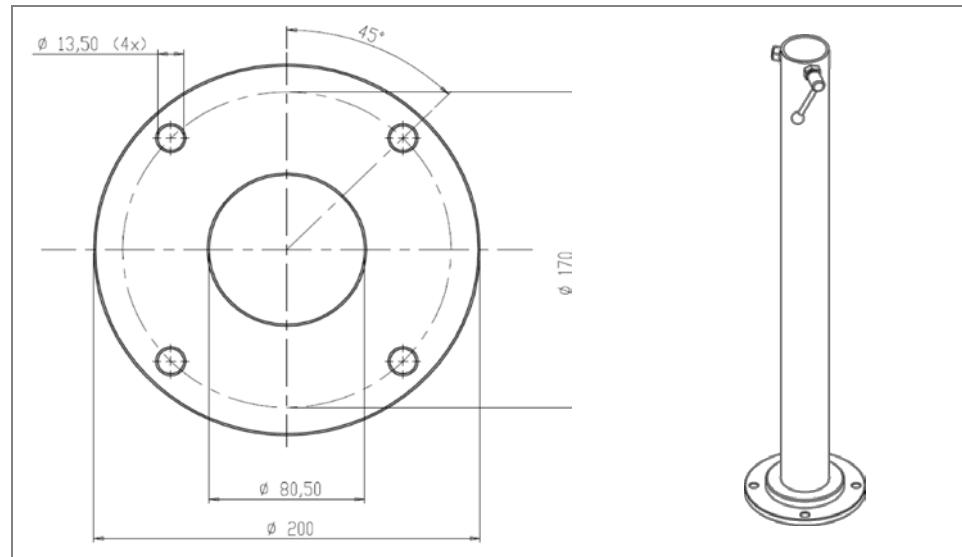
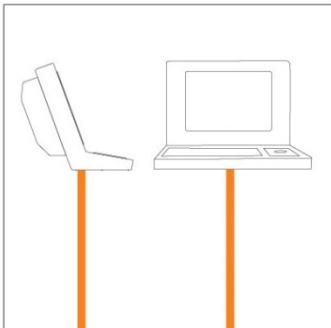


Illustration 7: Drilling pattern - supporting system for floor mounting

### Wall mounting (Stainless steel enclosure "Exclusive")

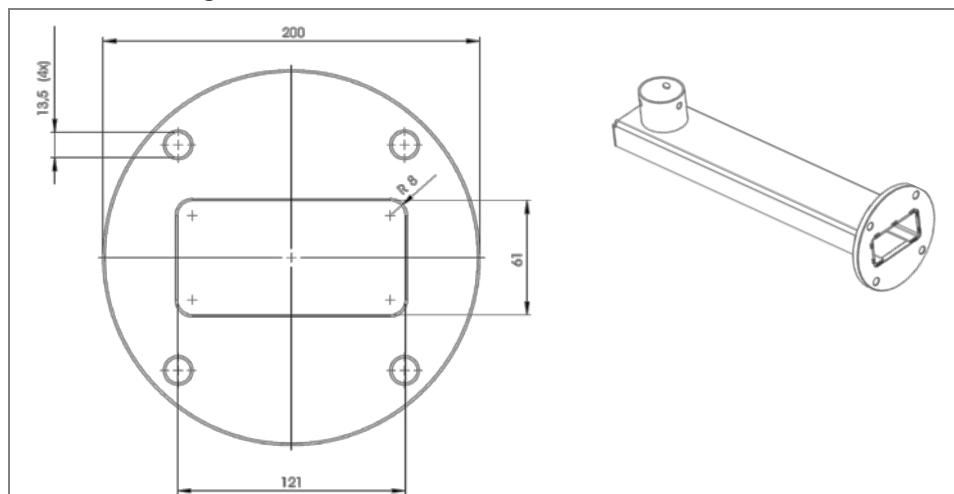
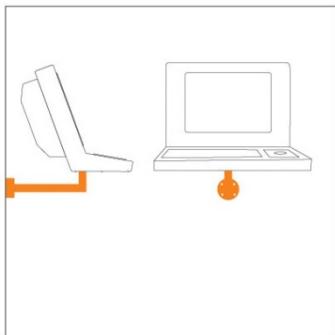


Illustration 8: Drilling pattern - supporting system for wall mounting

### Table mounting swivel/tilt (Stainless steel enclosure "Exclusive")

#### **⚠ CAUTION**

Movable enclosure parts on the swivel-mounted enclosure.

There is a risk of injury by hands being crushed.

- ▶ 3 people are needed for assembly/disassembly.
- ▶ When lifting the POLARIS, always pick up the swivel-mounted adapter and enclosure together.
- ▶ Hold up the POLARIS on both sides (two people), so that the third person can lay the supply and data line(s) in the supporting system. Make sure that your fingers do not get caught between the swivel adapter and the enclosure as you set up the POLARIS.

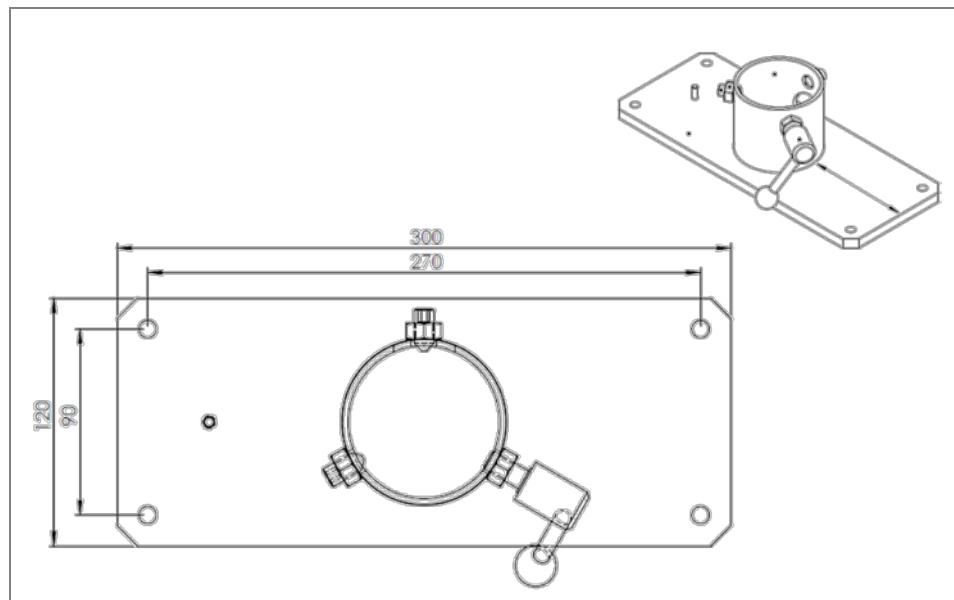
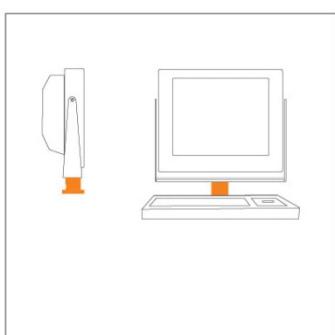


Illustration 9: Drilling pattern - supporting system for table mounting

**Inclining**

- The POLARIS is fixed in position by means of the two side handle screws.
- The angle of inclination can be changed once both handle screws have been loosened.

Tools: hex key 5 mm

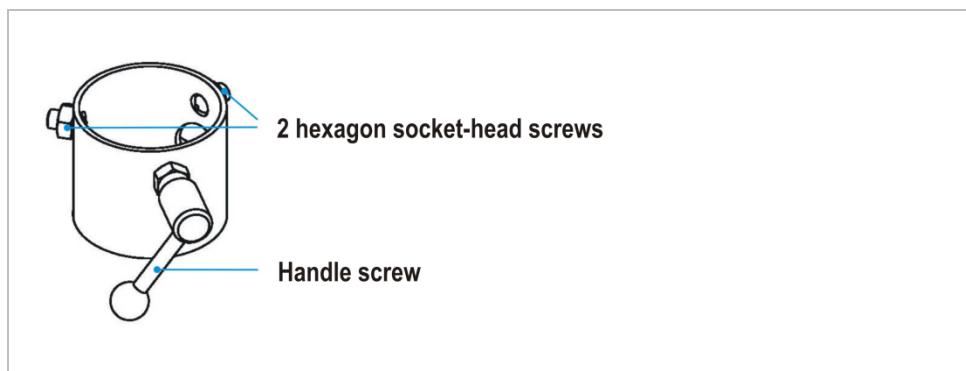


Illustration 10: Swivel-mounted adapter

**Rotating**

- The POLARIS is fixed in position on the supporting system by means of two hexagon socket-head screws (M10) and a handle screw.
- The angle of rotation can be changed once the screws have been loosened.

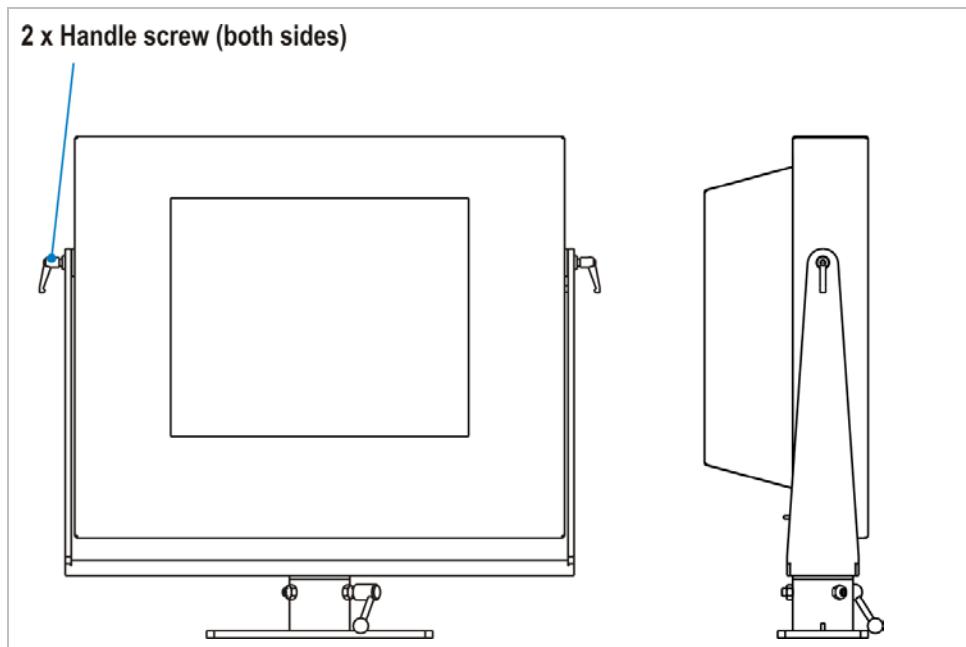


Illustration 11: Side handle screw

## 5.3 Electrical Installation

### 5.3.1 Installation guidelines



Only qualified personnel, i.e. trained electricians will have the required specialised knowledge to be able to do all the electrical work.

Familiarity with and the technically perfect implementation of the safety instructions described in this manual are preconditions for safe installation and commissioning.

- The user may do only the wiring at the terminals that are accessible to him/her (Ex i and Ex e terminal compartment).
- Any unused cable glands on the Ex e terminal compartment should be closed using an approved blanking plug.
- More extensive dismantling work on the device may be done only by the manufacturer or by persons authorised by the manufacturer for this purpose. The device is factory-sealed. Never open it!
- The equipotential bonding connection point must be connected to the equipotential bonding conductor in the hazardous area. Since the intrinsically safe circuits are galvanically connected to earth, equipotential bonding is required throughout the entire installation of the intrinsically safe circuits.
- The safety and accident prevention regulations applicable to the respective individual case must be observed.
- Devices must be properly installed first before they may be operated.
- It must be possible at all times to disconnect the devices from the voltage supply (in fixed installations by means of an all-pole mains isolating switch or fuse).
- It must be ensured that the supply voltage agrees with the specifications in this user manual and the tolerances must be observed. Use smoothed direct current.
- Malfunctioning cannot be ruled out if levels exceed or drop below the specified tolerances.
- If there is a power failure or if the power supply is interrupted, make sure the system has not been put into a dangerous, undefined condition.
- EMERGENCY STOP mechanisms must remain effective throughout all modes and states of operation.
- Connection cables (particularly data transmission cables) must be selected and laid in a way that ensures that capacitive and inductive interference will not have any adverse effect on the equipment. Appropriate measures must be taken to handle line interruptions to prevent any undefined states occurring.
- Wherever malfunctioning can cause material damage or personal injuries, additional external safety circuits must be provided (e.g. limit switch, mechanical interlocking devices etc.).

## 5.4 Terminal compartments

**⚠ DANGER**

Sealed locking screw! The device is closed in the factory.

The explosion protection is lost if opened, and danger to life exists in an explosive atmosphere!

- Do not open the locking screw!

**⚠ DANGER**

Non-certified cable glands and non-sealed cable entries endanger the IP protection and accordingly the protection against explosions.

There is a risk of fatal injury in an explosive atmosphere!

- Use Ex-certified cable glands.
- Close non-sealed cable entries.

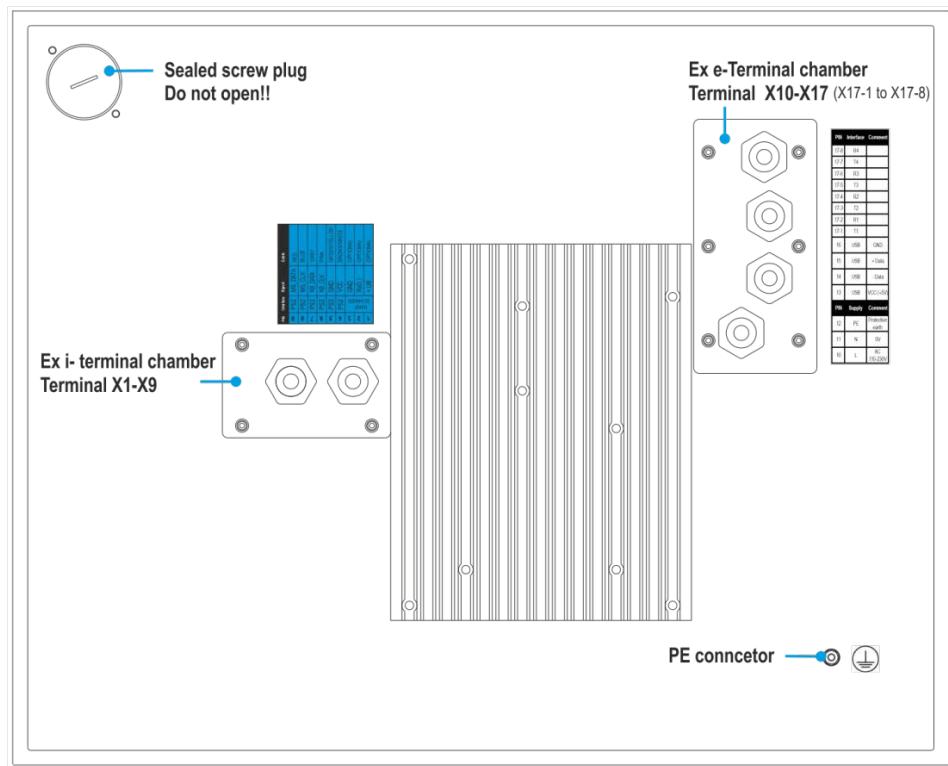


Illustration 12: Pin assignment POLARIS



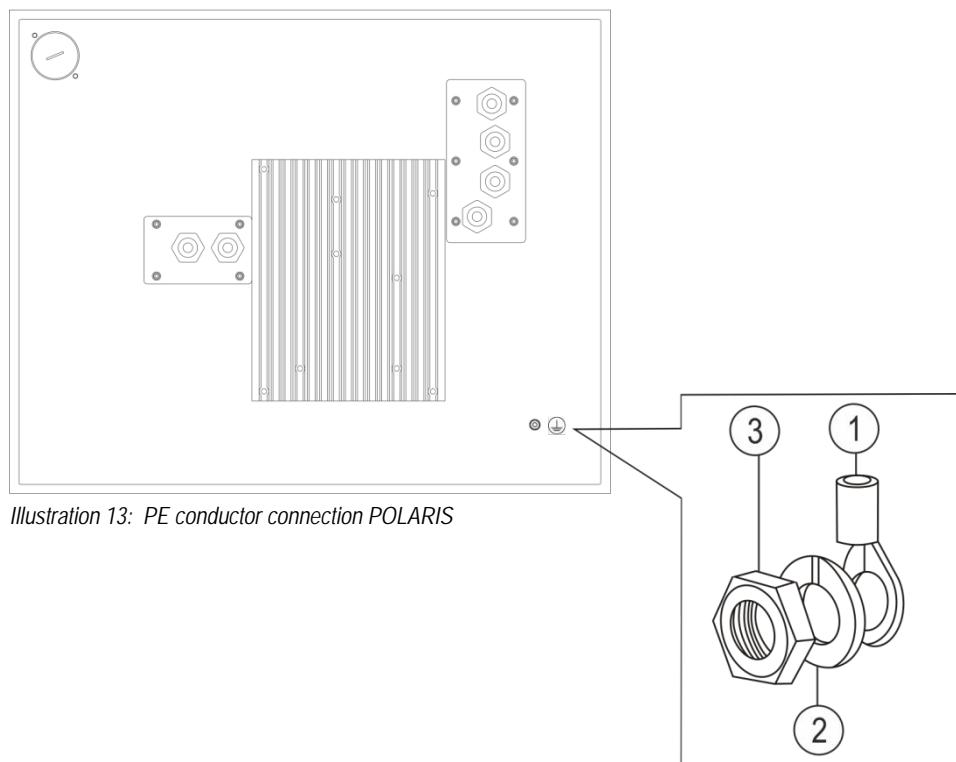
All connection screws and terminals in the terminal compartment must be tightened with a torque spanner under consideration of the recommended torque of 0.4 Nm up to a max. 0.5 Nm.

## 5.5 PE conductor connection

### **DANGER**

Death or danger of injury due to lack of PE conductor connection.

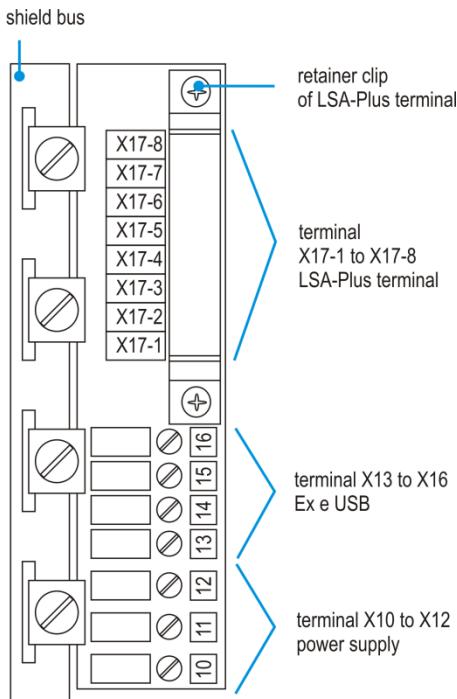
- ▶ An external PE conductor connection is necessary for metal enclosures. PE conductor, see illustration.
- ▶ PE conductor connections must be secured against accidental loosening.



### Work steps

- Push non-sheathed cable with PE cable lug (1) on to earthing stud.
- Position spring washer (2) on threaded bolt and secure with hexagonal nut (3), max. torque: 2.9 Nm.
- Lay cable close to enclosure so that it cannot become loose.

## 5.6 Ex e terminal compartments



### 5.6.1 Cable entries

When connecting cables and leads to supplies / communications equipment in increased safety protected areas, it is essential to use Ex certified cable entries which are suitable for each type of cable and lead. You must maintain the protection concept "e" and include a suitable sealing element so that an IP rating of at least IP 54 is maintained.

#### **DANGER**

Do not connect cables and leads while the power supply is active.

Danger to life exists in an explosive atmosphere!

- Disconnect the device before beginning any work.

### 5.6.2 Supply voltage terminal assignment

#### Mains Connection Variant AC

Terminal	Interface	Signal	Remarks
X10	Supply	L	AC 110 - 230 V ± 10 %
X11	Supply	N	Neutral
X12	Supply	PE	Protective earth

#### Mains Connection Variant DC 24 V

Terminal	Interface	Signal	Remarks
X10	Supply	+	DC 24 V ± 10 %
X11	Supply	-	0 Volt
X12	Supply	PE	Protective earth

### 5.6.3 Terminal Assignment for USB

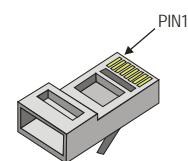


Only for external keyboard and mouse.

USB			
Terminal	Interface	Signal	Comments
X13	Ex e USB	VCC (+5V)	
X14	Ex e USB	- Data	
X15	Ex e USB	+ Data	
X16	Ex e USB	GND	

### 5.6.4 Terminal assignment LSA-Plus Terminal (X17-1 to X17-8)

POLARIS Remote	STP-cable	RJ45-RJ 45 jack		
Terminal	Colour (T568B colour sequence)	Signal	PIN	
X17-8	BN		R4	8
X17-7	BN/WH		T4	7
X17-6	BU		R3	4
X17-5	BU/WH		T3	5
X17-4	GN		R2	6
X17-3	GN/WH		T2	3
X17-2	OG		R1	2
X17-1	OG/WH		T1	1



#### Work steps:

- At the LSA-Plus® terminal loosen the two screws in the retainer clip and remove the retainer clip.
- Use the insertion tool for the LSA-Plus to wire the cores in conformance with the terminal connection diagram.
- Put the shielding onto the shield bus.
- Put the retainer clip on and tighten the screws with a torque of 1.2 Nm.

## 5.7 Ex i terminal compartment



Do not connect the keyboard, mouse, trackball, touchpad, joystick or the hand-held scanner while the power supply is active.



Accessories which have not been approved jeopardise the explosion protection.  
Danger to life exists in an explosive atmosphere!

- Only use POLARIS accessories!



The cover for the Ex i terminal compartment need not be used when deploying a protective enclosure with protection class of at least IP20.

### 5.7.1 Connection of Ex i keyboard to the POLARIS (optional)

PS/2 for input devices					
Terminal	Interface	Colour	Signal	Remarks	
X4	PS/2	WH/BR	VCC	Supply voltage	
X5	PS/2	GN/YE	GND	Mass connected to protective earth	
X6	PS/2	PK	KB_CLK	Keyboard	clock signal
X7	PS/2	GR	KB_DATA	Keyboard	data signal
X8	PS/2	BL	MS_CLK	Mouse	clock signal
X9	PS/2	RD	MS_DATA	Mouse	data signal

### 5.7.2 Connection of a BARTEC BCS 160<sup>ex</sup> hand scanner (optional)



Do not connect the hand scanner when there is an active power supply.

#### Configuration of hand scanner connection (optional)

Terminal	Interface	Signal	Remarks
X1	Hand scanner	+UB	Supply voltage +5 V
X2	Hand scanner	RxD-I	Data input RS232-Signal
X3	Hand scanner	GND	Earth connected to protective ground

Intrinsically safe data and supply current circuits  Terminal X1-X3	U <sub>0</sub>	5.5	V
	I <sub>0</sub>	440	mA
	P <sub>0</sub>	1.25	W
	R <sub>i</sub>	25	Ω
	C <sub>0</sub>	55.8	μF
	L <sub>0</sub>	0.2	mH



The BCS 160<sup>ex</sup> hand scanner series can only be used with the original connection cable from BARTEC.

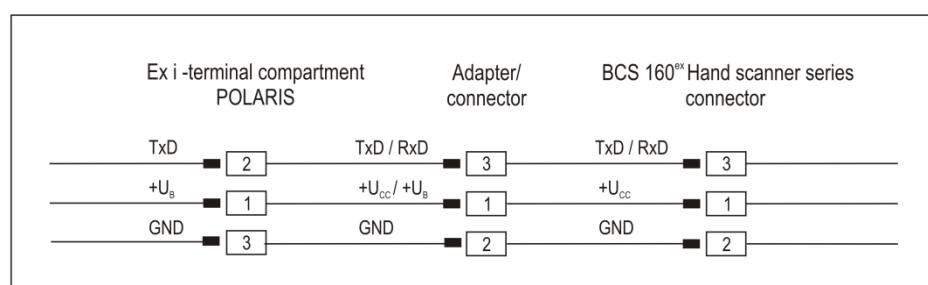
#### Connection cable to BCS 160<sup>ex</sup> Barcode hand scanner (pre-assembled)

Cable specified for connection to:	Scanner cable	Version	Length	BARTEC order no.
POLARIS supply module	RS232/RS422	Smooth spiral	1.8 m 3.8 m	17-21BE-M000/0000 17-21BE-M010/0000
	RS232/RS422			

#### Connection cable to BCS 160<sup>ex</sup> BT Bluetooth hand scanner (pre-assembled)

Cable specified for connection to:	Scanner cable	Version	Length	BARTEC order no.
POLARIS supply module	RS232/RS422	Smooth spiral	1.8 m 3.8 m	17-21BE-M020/0000 17-21BE-M030/0000
	RS232/RS422			

Terminal connection diagram: BCS 160<sup>ex</sup> hand scanner to supply module by means of connector/adapter.



The data transmission between local unit and PC is made via the USB cable (see example in Chapter 2 "System Design").

## 5.8 Local Unit



### ATTENTION

In the POLARIS Remote KVM Digital System the internal firmware of the local unit is coordinated with the remote unit.

- The same firmware release must be used.  
The firmware status is printed on the POLARIS Remote KVM Digital and on the local unit or can be read out during operation (see KVM operating instructions).
- If several systems are in use, the local units may not be swapped.
- The firmware release must be stated when ordering spare parts.

### 5.8.1 Technical Data for Local Unit

Max. ambient temperature	0 °C to +40 °C
Dimensions	98 x 41 x 106 mm
Weight	540 g (set)
Power consumption	5 watts per device
Enclosure	Aluminium anodized
Power supply	12 V 1 A through external AC/DC adapter

### 5.8.2 STP Cable Connection

The POLARIS Remote KVM Digital and the local unit are connected by a CAT 7 cable.

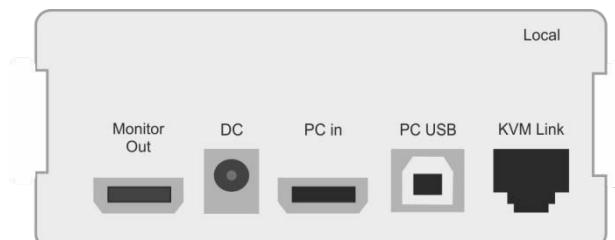
#### Requirements for CAT 7 cable:



The cables must be twisted in pairs and shielded in conformance to the EIA/TIA-568 B standard (standard types)!

Recommended cable: LAN STP cable CAT.7 4 x 2 x 23 AWG, see Accessories

### 5.8.3 Local Unit Connections



## 5.9 EMC (Electromagnetic Compatibility)



This is a class A unit and can cause radio interference in residential areas; if it does, the owner/managing operator may be required to implement suitable measures and pay for loss or damage.



Only shielded conductors may be used as connecting conductors. This applies both to the data line and to all other conductors too.

### 5.9.1 Voltage Supply (AC and DC Variants)

To supply voltage to the DC variant, it is necessary to use a regulated power supply unit with a power level of at least 5 A. The voltage supply at the place of installation may neither exceed nor drop below DC 24 V ± 10 %. Observe the voltage drop on the supply cable and correct if necessary.

The voltage drop in the DC variant of the supply line is calculated with the following formula:

$\Delta U$	Voltage drop on the supply line at power supply voltage of DC 24 V	Max. 2.4 V
$\Delta U$	Voltage drop on the supply line with maximum permissible mains adapter overvoltage DC 24 V +10 % (26.4 V)	Max. 4.8 V (until 10% undervoltage is achieved)
$I$	Electricity for a Remote	At least 4 A
$A$	Cable cross-section of the supply line	
$\kappa$	Specific conductance of copper	$56 \frac{m}{\Omega \cdot mm^2}$
$l$	Length of the supply line (consider both the outgoing and return line)	

$$R = \frac{l}{\kappa \cdot A} \quad R = \frac{\Delta U}{I} \quad \Delta U = \frac{l}{\kappa \cdot A} \cdot I$$

If the voltage drop cannot be balanced out or the calculation produces excessive cable cross-sections, a separate mains adapter must be installed near the installation site.

Example: pressure-tight encapsulation or ex-free area on the outside of the building.



As a result of the connection of the power supply to the POLARIS, the earth for the power supply is connected to the PE. It is essential to ensure that the earth for the power supply on the POLARIS, if this is not electrically isolated, indicates no potential difference to the PE/PA.

#### Back-up fuse in the POLARIS REMOTE Series

Version	Fuse	
DC	Internal, 4 A slow-blowing	
AC	1.6 A slow-blowing	Since June 2015: 2.5 A

The fuse may be triggered in the case of voltage dips or undervoltage.



We recommend protecting the POLARIS with an upstream fuse to prevent blowing the fuse inside the device. Only BARTEC can change the internal fuse.

Back-up fuse     AC: 1.6 A    slow-blowing (since June 2015: 2.5 A)  
                    DC: 4 A    quick-acting.

#### 5.9.2 Interference suppression

Certain basic measures must be taken to ensure freedom from interference when the POLARIS are installed:

- The interference voltages coupled into the device via power, data and signal line and the electrostatic voltage caused by contact are to be dissipated through the equipotential bonding.
- The installation point should be as far as possible away from fields of electromagnetic interference. This is especially important if there are frequency converters in the vicinity. Under certain circumstances will it be advisable to set up partitions to isolate the graphic display from interference.
- If inductive devices are fitted in the vicinity (e.g. contactor, relay or solenoid coils), especially if they are powered from the same source, protective circuits (e.g. RC elements) must be installed.
- Power supply and data cables must be laid so as to avoid interference. This can be achieved, for example, by avoiding laying such cables in close proximity to high-current carrying cables.

#### 5.9.3 Shielding

- Only cables with braided shielding should be used (recommended cover density > 80%).
- Sheet shielding should not be used.
- Generally, connection of the shielding at both ends results in optimum damping of all interference frequencies.
- Connection of the shielding at one side only may be more advisable if a difference in potential exists and no equipotential bonding cable can be laid.

### Connection of shielding

A low impedance connection to the circuit protective conductor is important to ensure a low current fault path. When sub-D connectors are used, the shielding should always be connected to the metal casing of the sub-D plug.

The plug casing of some controllers is not always well connected to earth. In such cases it may prove advantageous to insulate the shielding from the sub-D plug of the controller and connect it directly to the protective earth conductor by means of a cable that should be kept as short as possible ( $0.75 \text{ mm}^2 \dots 1.5 \text{ mm}^2$ ).

### Examples of Shielding Connections

#### Double-sided shield connection on the connecting cables:

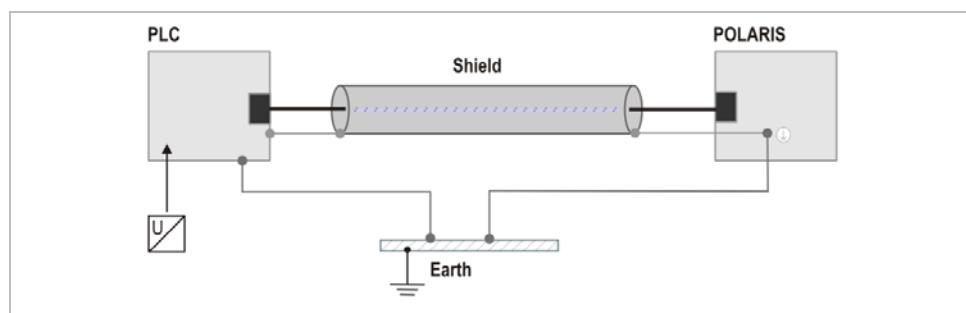


Illustration 14: Example of double-sided shield connection

Generally, connection of the shielding at both ends results in optimum damping of all interference frequencies. This method is to be recommended when there is good equipotential bonding between the individual units. In such cases it is possible to make use of the controller's voltage supply cable even if this is not electrically isolated.

#### Single-sided shield connection on the connecting cables:

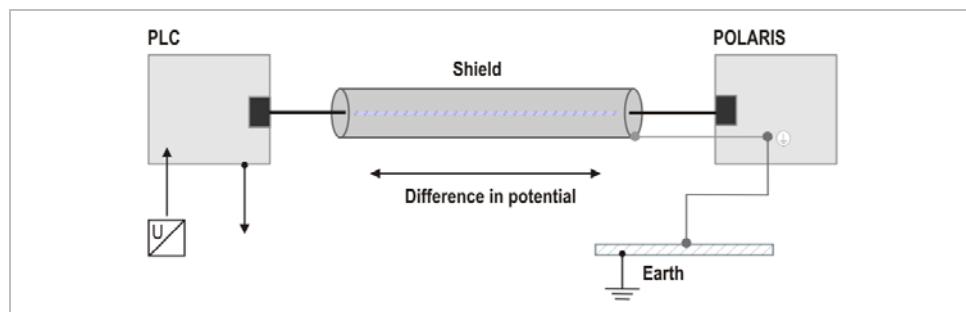


Illustration 15: Example of single-sided shield connection

Connection of the shielding at one end only is recommended when there is inadequate equipotential bonding or none at all. In such cases an electrically isolated power supply unit must be used. Before the equipment goes into service the directions from the controller manufacturer regarding proper assembly and operation must be read carefully. They should then be applied taking full account of the recommendations we make here.

# 6 Commissioning

For electrical systems the relevant installation and operating specifications (e.g. Directives 99/92/EC and 94/9/EC, BetrSichV and the applicable national ordinances, IEC 60 079-14 and the DIN VDE 0100 series) must be observed.

The operator of an electrical system in a hazardous environment must keep the operating equipment in an orderly condition, operate it correctly, monitor it and do the required maintenance and repairs.

Before commissioning the devices, check that all components and documents are there.

## 6.1 Final Inspection

**Check the following requirements before commissioning the device:**

Only open the ex e terminal compartment with terminals for the supply and data line(s) once it has been ensured that no potentially explosive atmosphere is present and that the power supply has been turned off.

### POLARIS Remote

- ▶ Has the reinforcement frame between the bracket and enclosure been inserted?
- ▶ Is there no damage to seals, cable connections or glass panel?
- ▶ Are the supply and data line(s) correctly wired?
- ▶ Have the supply and data line(s) been tightened in the screw terminals?
- ▶ Are all terminal compartments closed?
- ▶ Have all cable glands been tightened and all open cable entries closed with blanking plugs?

### Local Unit

- ▶ Is the network box connected to the local unit via patch cable?
- ▶ Are the data lines for USB, DVI and the power pack connected?

Only start the POLARIS (if a potentially explosive atmosphere is present) once the final inspection has been carried out.

### ATTENTION

**POLARIS with CFL backlighting:**

**Damage to property resulting from failure to comply with ambient conditions!**

Once the heating is switched on, the POLARIS can be used at ambient temperatures from -20 °C to +50°C.

- ▶ Observe the storage temperatures and protect POLARIS from moisture.
- ▶ If the ambient temperature is under 0 °C, the heating must be put on 24 hours before the POLARIS is put into operation.
- ▶ If the POLARIS is switched off at ambient temperatures under 0 °C, an advance heating time of 24 hours must be observed again.

## 7 Operation

Once the final inspection has been carried out, the device can be put into operation.



The POLARIS series does not have any ON/OFF switch.

### 7.1 Commissioning

Switch on the POLARIS and the local unit.

The system conducts a fully automatic cable synchronization, which takes about 5 seconds. The "Power/Status" LED on the front of the local unit flashes in red then. If the "Power/Status" LED switches to green, all signals are transmitted.

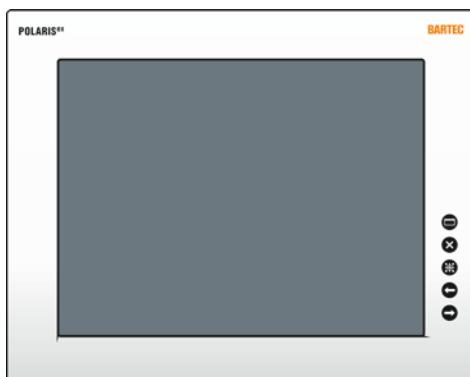
#### Compatibility



The system was tested with different devices. Nevertheless, it is impossible to guarantee that it will function correctly with every keyboard/mouse/ monitor and motherboard.

### 7.2 Display Settings

Settings can be done with the front-panel keyboard via OSD menu of the graphics card. Follow the instructions in the OSD menu.



OSD menu

### 7.3 Touch Screen

In the POLARIS Remote devices the touch driver is on the CD included in the scope of supply. The touch driver for the respective operating system must be installed on the local server or PC.

There is also the option of downloading the touch screen software from <http://www.bartec.de/automation-download/>.

After installation, the touch screen must be calibrated.



The transmission is done via USB cable for the keyboard and mouse.

## 8 Faults and Troubleshooting

Fault	Possible Cause	Remedy
No display	No signal	Check the "Power/Status" LED on the local unit
	LED on the local unit is red i.e. no communication with the POLARIS Remote device	Check the power supply connection. / (remote station and local unit) Check the data line and wiring
	LED on the local unit is orange (red and green), i.e. no monitor input signal on the local unit	No monitor connection signal No output signal on local PC
	LED on the local unit is green	Data transmission between local unit and remote station is OK. Check display resolution.
	Backlighting is defective.	Return to manufacturer
	Device is defective	Return to manufacturer
Voltage supply or current consumption too low or absent	Power supply is too low	Check diameter and length of the conductor. See Chapter 5.8
	Blown external line fuse	Check fuse.
	Blown internal fuse	Return to manufacturer.
	Device is defective.	Return to manufacturer.
There are always stripes on the display.	Display is defective.	Return to manufacturer.
Dark background	The backlighting is coming to the end of its service life.	Return to manufacturer Replace backlighting.
	Power save activated at the local PC.	Press any key.
Touch screen not working	Driver is deactivated Driver is not installed	Check driver installation / install driver
	USB cable for touch screen is not connected	Use the USB cable to connect PC to the local unit.
Mouse cursor and point of contact on the screen do not agree.	Touch screen has been calibrated incorrectly	Calibrate the touch screen

## 9 Maintenance, Inspection, Repair

Only trained and qualified personnel may commission and do maintenance work on the POLARIS! Trained qualified personnel are people who are familiar with the installation, assembly, commissioning and operation of the POLARIS, have been instructed about the risks and have the appropriate qualifications by virtue of the work they do.

### 9.1 Maintenance intervals

The mechanical status of the devices should be checked at regular intervals. The length of the maintenance intervals depends on the ambient conditions. We recommend checking at least once a year. Regular maintenance is not necessary if operated appropriately in conformance with the installation instructions and with due consideration to the ambient conditions.

#### DANGER

Prevent electrostatic charging in hazardous (potentially explosive) areas.

There is a risk of a fatal injury in an explosive atmosphere!

- Take devices out of hazardous areas before wiping them dry or cleaning them!

#### ATTENTION

There is a risk of condensation forming when installed outside. Damage to property may occur if this is not checked!

- Regularly check the POLARIS for the formation of condensation.

### 9.2 Inspection

Under EN/IEC 60079-17 and EN/IEC 60079-19 the owner/ managing operator of electrical installations in hazardous areas is obliged to have these installations checked by a qualified electrician to ensure that they are in a proper condition.

## 9.3 Maintenance and Repair Work

Adhere to the applicable regulations under Directive 99/92/EC, EN/IEC 60079-17 and EN/IEC 60079-19 when servicing, doing maintenance work on and testing associated operating equipment!

Assembly/disassembly, operating and maintenance work may be done only by trained specialists. The statutory rules and other binding directives on workplace safety, accident prevention and environmental protection must be observed.

### 9.3.1 Instructions for Repairs

If you wish to send in a defective device for repair, please read the RMA procedure guidance first. Then fill in and sign the RMA (Return Merchandise Authorisation) form and send it to our "Retouren Center".

E-mail: [services@bartec.de](mailto:services@bartec.de)

Fax: +49 7931 597-119

We cannot guarantee any contractually agreed processing times for devices that are sent in without an RMA number.

The RMA guide and the RMA form are available on our homepage for downloading.

<http://www.bartec.de>



> Return & Repair

Have you any questions? Write us an e-mail or call us.

E-mail: [services@bartec.de](mailto:services@bartec.de)

Phone: +49 7931 597-444



For returns it is necessary to send in the entire system, i.e. the POLARIS Remote KVM Digital including the local unit.

## 10 Disposal

The component of the POLARIS contains metal, plastic parts and electronic components.



Our devices are intended as professional electric devices for business use only, referred to as B2B devices under the WEEE-Directive. The WEEE directive sets the framework for waste electric and electronic equipment handling procedures which are to apply throughout the EU. This means that you are not permitted to dispose of this equipment in normal household refuse. It should not be given to the collection sites set up by the public waste management authorities either but instead it should be disposed of in a separate collection in an environmentally sound manner.

Any product we supply can be returned by our customers to us when the time has come to dispose of it. We will ensure that it is disposed of in accordance with the respective applicable statutory regulations.

The sender pays the costs of the dispatch/packaging.

## 11 Dispatch and Packaging Instructions

### ATTENTION

Sensitive Devices! Damage to property due to incorrect packaging!

- Take the device's maximum weight into account when selecting the packaging and mode of transport.
- Use the original packaging for transportation.

## 12 Accessories, Spare Parts

Included in the scope of the delivery:

Name	Order no.	
Mounting clamps		
Reinforcement frame	POLARIS 15"	05-0205-0009
	POLARIS 19.1"	05-0205-0010
	POLARIS 24"	05-0205-0012
Local unit		
RJ45 Network box		
RJ45 Patch cable		

Accessories, Spare Parts for POLARIS Remote KVM Digital

Name	Order no.		
Keyboard in respective national language	17-71VZ-40.0		
Input devices	Mouse	17-71VZ-1000	
	Trackball	17-71VZ-2000	
	Touchpad	17-71VZ-3000	
	Joystick without button	17-71V2-8000	
	Joystick with button	17-71V2-9000	
Connection cable	for keyboard and mouse	1.8 m 3.0 m	05-0068-0163 03-0068-0204
	for keyboard and trackball/joystick	1.8 m 3.0 m	03-0068-0172 05-0068-0205
	for keyboard and touchpad	1.8 m 3.0 m	03-0068-0183 03-0068-0206
Enclosure "Exclusive"	POLARIS 15"	03-8900-0224	
	POLARIS 19.1"	03-8900-0225	
	POLARIS 24"	on request	
Support system	Stand for floor mounting	05-0005-0050	
	Support arm for wall mounting	05-0005-0058	
	Stand for desk mounting	05-0005-0070	
Enclosure for keyboard and mouse		05-00410277	
Mounting clamps	4 pieces	05-0091-0111	
	6 pieces	05-0091-0112	
LAN STP cable	CAT.7 4x2x23 AWG, outer diameter: 7.9 mm	02-4082-0002	
	CAT.7 4x2x22 AWG, outer diameter: 18 mm; armoured	02-4082-0004	
BCS 160 <sup>ex</sup>		17-21BA-M3.S.-.....	
Original packing	POLARIS 15"	04-9035-0007	
	POLARIS 19.1"	04-9035-0008	
	POLARIS 24"	on request	
Local unit	including power pack (state firmware status when ordering)	on request	

## 13 Order Numbers

POLARIS Remote KVM Digital 15", 19" and 24"

Selection chart			
Version	Code no.	Interfaces	Code no.
Remote KVM Digital 15" without touchscreen	<b>4</b>		
Remote KVM Digital 15" with touchscreen	<b>6</b>	for STP/S copper cable (up to max. 130 m)	<b>17</b>
Remote KVM Digital 19.1" without touchscreen	<b>5</b>		
Remote KVM Digital 19.1" with touchscreen	<b>7</b>		
Remote KVM Digital 24" without touchscreen	<b>C</b>	for STP/S copper cable (up to max. 130 m) supply modul for hand-held scanner	<b>18</b>
Remote KVM Digital 24" with touchscreen	<b>D</b>		

→ Complete order no. 17-71V2- 

POLARIS Remote KVM Digital 15" Sunlight

Selection chart			
Version	Code no.	Interfaces	Code no.
Remote KVM Digital 15" Sunlight without touchscreen	<b>4</b>	for STP/S copper cable (up to max. 130 m)	<b>17</b>
Remote KVM Digital 15" Sunlight with touchscreen	<b>6</b>	for STP/S copper cable (up to max. 130 m) supply modul for hand-held scanner	<b>18</b>

→ Complete order no. 17-71V2- 

## 14 Additional Information

### Resistance list – polyester front foil POLARIS series

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The polyester front foil material used for the POLARIS series in accordance with DIN 42115, section 2, is resistant against the testing material specified as follows:

#### Alcohols

Ethyl alcohol  
Cyclohexanone  
Glycol  
Glycerol  
Isopropanol  
Methanol

#### Aldehydes

Acetaldehyde  
Formaldehyde

#### Caustic solutions

Ammonia < 2 %  
Caustic soda < 2 %

#### Hydrocarbons

Aliphatic hydrocarbons  
General  
Benzine  
Benzene  
Toluene  
Xylene

#### Saline solutions

Alkalicarbonate  
Bichromate  
Prussiate of potash

#### Chlorinated hydrocarbons

Chlorofluorocarbon  
Perchloroethylene  
III-trichloroethane  
Trichloroethylene

#### Different substances

Molecular chlorine  
Liquid cresolphenole soaps  
Oxygen  
Tricresyl phosphate  
Water < 100 °C  
Hydrogen peroxide < 25 %

#### Ester

Ethyl acetate

#### Detergents, scavengers and cleaning agents

Potassium soap  
Detergent solutions (tenside)  
Fabric softeners

#### Other organic solvents

Aether  
Dimethyl formamide  
Dioxane

#### Technical oils and fats

Cutting emulsion  
Diesel oil  
Varnish  
Heating oil  
Paraffin oil  
Ricinus oil  
Silicone oil  
Turpentine oil and turpentine oil substitute

#### Acids

Formic acid	< 50 %
Acetic acid	
Phosphoric acid	< 30 %
Hydrochloric acid	≤ 10 %
Nitric acid	≤ 10 %

(Where not stated otherwise: concentration = 100%)

**Polyester membranes have a limited resistance to UV light and should therefore not be exposed to direct sunlight for extended periods of time.**

## Declaration of Conformity

<p>Erklärung der Konformität Declaration of Conformity Attestation de conformité</p> <p><b>BARTEC</b> BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany</p> <p><b>BARTEC GmbH.</b></p> <p>Wir erklären in alleiniger Verantwortung, dass das Produkt POLARIS Serie erkläre unter our sole responsibility that the product POLARIS series declare under our sole responsibility that the product POLARIS série</p> <p><b>CE</b></p> <p><b>Visualisierungseinheit POLARIS</b> Typ-Nr.: 17-71V***** auf das sich diese Erklärung bezieht den Anforderungen der folgenden Richtlinien (RL) entspricht ATEX-Richtlinie 94/9/EG EMV-Richtlinie 2004/108/EG RoHS-Richtlinie 2004/108/EG und mit folgenden Normen oder normativen Dokumenten übereinstimmt EN 60079-0:2009 EN 60079-7:2007 EN 60079-7:2012 EN 60079-31:2009 EN 61000-6-4: 2007</p> <p>to which this declaration relates is in accordance with the provision of the following directives (D) ATEX-Directive 94/9/EC EMC-Directive 2004/108/EC RoHS-Directive 2004/108/EC and is in conformity with the following standards or other normative documents EN 60079-1:2007 EN 60079-7:2007 EN 60079-11:2012 EN 60079-28:2007 EN 60079-05:2007 EN 61000-6-2: 2005</p> <p>se référant à cette attestation correspond aux dispositions des directives (D) suivantes ATEX-Directive 94/9/CE CEM-Directive 2004/108/CE RoHS-Directive 2004/108/CE et est conforme aux normes ou documents normatifs ci-dessous EN 60079-7:2007 EN 60079-28:2007 EN 61000-6-2: 2005</p>	<p>Erklärung der Konformität Declaration of Conformity Attestation de conformité</p> <p><b>BARTEC</b> BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany</p> <p><b>Kennzeichnung</b> <b>Marking</b> <b>Marquage</b></p> <p>II 2 G Ex eb qb [ib op pr] IIC T4 bzw. II 2 G Ex db eb qb [ib op pr] IIC T4 II 2 D Ex tb IIIC T120° C Zubehör II 2 G Ex ib IIC T4 II 2 D Ex ib IIIC T120° C</p> <p><b>Verfahren der EG-Baumusterprüfung / Benannte Stelle</b> <b>Procedure of EC-Type Examination / Notified Body</b> <b>Procédure d'examen CE de type / Organisme Notifié</b></p> <p>IBExU 05 ATEX 1117 X 0637 IBExU, Fuchsmühlenweg 7, 09599 Freiberg, D € 0044</p> <p>Bad Mergentheim, den 18.05.2013 ppa. Ewald Warmuth Geschäftsleitung / General Manager</p>
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people and  
the environment  
by the safety  
of components,  
systems  
and plants.

